Australian Government
Australian Taxation Office

Australian Taxation Office Legislative Instrument
Instrument ID: 2015/ITX/0040

Excise (Mass of CNG) Determination 2015 (No. 1)

Explanatory Statement

General Outline of Instrument

1. This Explanatory Statement is provided in accordance with section 26 of the *Legislative Instruments Act 2003*.
2. Under section 65 of the *Excise Act 1901* (Excise Act) the CEO may make rules for working out the volume or weight of excisable goods.
3. This instrument is made under section 65 of the Excise Act. It provides rules for working out the mass of excisable CNG (compressed natural gas classified to sub-item 10.19C of the Schedule to the *Excise Tariff Act 1921*) that is being delivered for home consumption, and for the purposes of working out the amount of excise duty payable on such fuel.

Repealing of previous instrument

4. *Excise (Mass of CNG) Determination 2012 (No. 1)* – F2012L01048 registered on the 21/05/2015 is repealed on the commencement of this determination.
5. Paragraph 9 of the original instrument contains references to the Excise Regulations 1925 which were remade on 01 April 2015 due to the sun-setting provisions under the *Legislative Instruments Act 2003* (LIA)
6. The replacement of the instrument gives effect to the above changes by referring to the new *Excise Regulation 2015* (Excise Regulation) and aligns the 10 year sunset period of the new determination with that of the regulation that it cites.
7. Aside from this updated reference the circumstances set out in the previous determination remain unchanged.

Date of effect

8. The determination will have effect on the day after it is registered.

Effect of this instrument:

9. The determination specifies the methods available for determining the mass of excisable CNG delivered into home consumption (in kilograms).
10. The determination also specifies a total figure of aggregated clearances as a factor relevant for determining eligibility to use certain methods.

11. Compliance cost impact: Minor – There will be no or minimal impacts for both implementation and ongoing compliance costs. The legislative instrument is minor or machinery in nature.

The rules

12. The mass of excisable CNG must be determined using one of the approved methods.

13. Where a person's measuring equipment can differentiate quantities of excisable CNG from other quantities of CNG produced or natural gas used the following permissible methods must, subject to paragraph 11, be used for calculating the mass of excisable CNG delivered into home consumption.

Method 1 - If your measuring equipment measures quantities of CNG in kilograms, you must use this equipment to measure the mass of excisable CNG delivered into home consumption.

Example 1: A CNG manufacturer delivers CNG on site through a computer controlled pump that measures the amount delivered in kilograms and records this in the customer's account. These accounts also detail whether CNG is for use in transport or non-transport. At the end of the settlement period, the total sum of CNG delivered for transport use (i.e. excisable CNG) is measured as being 50,000 Kilograms (Kg). Excise duty at the applicable tariff rate is then calculated on the 50,000 Kg of excisable CNG delivered into home consumption.

Method 2 – If your measuring equipment measures goods as energy (joules), you must convert to kilograms by either:

(a) the use of the conversion factor stipulated in Section 24(3) of the Excise Regulation; or

(b) the use of a conversion factor based on the composition of the gas by mole fraction using the method as described in the International Organization for Standardization ISO 6976-1995, *Natural gas – Calculation of calorific values, density and Wobbe index from composition*.

Example 2: If a quantity of excisable CNG delivered into home consumption has been invoiced at 2,641.310 gigajoules the mass of CNG would be determined by applying the conversion factor 0.01893 as stipulated in the *Excise Regulation 2015* for every megajoule of CNG (unless the person elects to apply the specific conversion factor by determining the composition of the gas by mole fraction using the method described in ISO 6976-1995). Application of the Excise Regulation factor 0.01893 would result in a mass of 50,000 Kg. Excise duty at the applicable tariff rate is then calculated on the 50,000 Kg.

Method 3 - If your measuring equipment measures goods in cubic metres, you must calculate the mass of excisable CNG delivered into home consumption by:

(a) (i) converting from cubic metres (m^3) to megajoules by using the heating value and any associated correction/pressure factors of the gas, as supplied by your gas distributor in your most recent tax invoice, or by applying an average heating value and an average of any associated

correction/pressure factors of the gas, as supplied by your gas distributor, over an accounting period; and then

(ii) converting the megajoule value to kilograms by employing the rate stipulated in Section 24(3) of the Excise Regulation; or

(b) (i) correcting the volume of gas measured by you to standard referencing conditions (101.325 kPa and 288.15 K) using Australian Standard / International Organization for Standardization AS ISO 13443-2007, *Natural gas – Standard reference conditions*; and then

(ii) applying the conversion factor based on the composition of the gas by mole fraction as per the method described in the International Organization for Standardization ISO 6976-1995, *Natural gas – Calculation of calorific values, density and Wobbe index from composition*.

Example 3: A person manufactures CNG on site entirely for transport use. The gas is supplied to the entity from the local gas distributor via a volumetric meter connected to the mains gas line which measures in cubic meters. The person is billed by the distributor monthly. The bill details the volume of gas used, the monthly average correction factor applied (1.0109) and the heating value of the gas supplied (38.44 MJ/m^3). At the end of the settlement period the total sum of excisable CNG is calculated by the CNG manufacturer to be 67,972 cubic meters. Accordingly, the calculation of the mass of excisable CNG delivered into home consumption (where the person does not elect to correct the volume of gas to standard referencing conditions using AS ISO 13443-2007, followed by applying the specific conversion factor based on the composition of the gas by mole fraction using the method described in ISO 6976-1995 to determine the mass of natural gas used) is performed as follows:

(i) the Energy value (E) is calculated by multiplying the volume used by the monthly average correction factor and heating value supplied by the gas distributor (i.e. E = 67,972 m^3 x 1.0109 x 38.44 MJ/m^3 = 2,641,324 MJ); and then

(ii) the conversion factor stipulated in the Excise Regulation is applied (i.e. M = 2,641,324 MJ x 0.01893 Kg/MJ = 50,000 Kg).

Excise duty at the applicable tariff rate is then calculated on the 50,000 Kg.

14. Where a person's measuring equipment cannot differentiate excisable quantities of CNG from other quantities of CNG produced or natural gas used and aggregated clearances of excisable CNG do not exceed 150,000 kilograms per accounting period, subject to paragraph 11, the following methods to calculate the mass of excisable CNG delivered into home consumption are permissible:

Method 4 – Measured Constructive Method of Apportionment.

Where a person has aggregated clearances of excisable CNG not exceeding 150,000 kilograms per accounting period, and where a person's measuring equipment cannot differentiate quantities of excisable CNG from other quantities of CNG produced or natural gas used, a constructive method of apportionment using an appropriate reliable measure may be used as the basis for calculating the mass of excisable CNG.

Example 4: An industrial bakery with aggregated clearances of excisable CNG of less than 150,000 kilograms has a compression plant at their site that compresses CNG for their forklifts and delivery trucks. The main natural gas meter supplying gas to the compression plant also supplies gas to heat bread ovens and to office spaces for heating, cooking and hot water. The compressor has no metering equipment. As the entity's gas meter does not differentiate quantities of natural gas used to produce excisable CNG from quantities of natural gas used for other purposes, the entity can calculate the amount of excisable CNG based on the odometer readings of kilometres travelled and the manufacturer's specifications of the vehicle's efficiency as follows:

A bread delivery van according to the manufacturers specification consumes 25 cubic meters of natural gas (at standard temperature and pressure) per 100 kilometres travelled. The entity measures the odometer reading of the delivery van at the start of the settlement period and subtracts this figure from the odometer reading at the end of the settlement period. The total distance travelled by the delivery truck from the odometer readings is calculated to be 854 kilometres. Thus the amount of natural gas consumed by the truck based on the manufacturer's specification is 213.5 cubic meters (25 m^3 x 854Km/100Km). The entity can convert the cubic metre figure to megajoules by applying the heating value specified in their most recent tax invoice for natural gas. The megajoule value may then be converted to kilograms by employing the rate specified in the Excise Regulation. The calculation would be as follows:

(i) The volume of gas consumed by the delivery van is 213.5 m^3 (i.e. 25m^3 x 854km/100km).

(ii) The heating value of the most recent invoice for natural gas is 38.44 MJ/m^3.

(iii) The energy value of the natural gas consumed by the truck is 8206.94 MJ (i.e. 213.5m^3 x 38.44 MJ/m^3).

(iv) Therefore, the mass of natural gas consumed by the truck is 155.36 kilograms (i.e. 8206.94 MJ x 0.01893 Kg/MJ).

The company similarly calculates the mass of natural gas consumed for all their fleet of trucks to determine the total quantity of excisable CNG that has been delivered for home consumption for the purposes of working out the amount of excise duty payable.

Method 5 – Measured Deductive Method of Apportionment.

Where a person has aggregated clearances of excisable CNG not exceeding 150,000 kilograms per accounting period, and where a persons measuring equipment cannot differentiate quantities of excisable CNG from other quantities of CNG produced or natural gas used, a deductive method of apportionment that uses an appropriate reliable measure may be used as the basis for calculating the mass of excisable CNG.

Example 5: A company with aggregated clearances of excisable CNG of less than 150,000 kilograms manufactures fertiliser by converting natural gas into ammonia and urea. The fertiliser company has a compression plant at their site that compresses CNG for the trucks that deliver this fertiliser directly to local customers or to a central storage and distribution warehouse. The natural gas compressor has no metering equipment.

The natural gas is supplied to the fertilizer company from an adjacent petroleum refinery that meters the amount of gas supplied and invoices the fertiliser company weekly in gigajoules. This company does not use the natural gas for any purpose other than producing fertiliser or fuelling their delivery trucks.

The fertiliser manufacturing process is a computer controlled system which accurately measures and records in kilograms the amount of natural gas added to the reactors to produce ammonia and urea. As a result the company can subtract the quantity of natural gas used in the manufacturing process from the total quantity of gas supplied to them by the refinery (using the rate specified in the Excise Regulation to convert the megajoule value to kilograms) in order to determine the amount of gas that was compressed and manufactured into excisable CNG. For example:

(i) The weekly invoice to the fertiliser company shows natural gas with an energy value of 15,546.751 gigajoules was supplied. Using the rate specified in the Excise Regulation to convert the megajoule value to kilograms this equates to 294,300 kilograms (i.e. M= 15,546,751 MJ x 0.01893 Kg/MJ = 294,300 Kg.

(ii) The amount of gas that was supplied to the reactor for conversion to ammonia and urea was measured by a gas mass flow meter and recorded as being 291,800 kilograms.

(iii) By using a deductive method of apportionment the amount of excisable CNG is calculated to be 2,500 kilograms (i.e. M = 294,300 Kg – 291,800 Kg = 2,500 Kg).

Excise duty is then payable on the 2,500 kilograms of excisable CNG.

15. When using a constructive or deductive method of apportionment, examples of appropriate reliable measures as the basis for calculating the amount of excisable CNG that an entity has used include:

- gas flow measuring equipment
- odometer readings of kilometres actually travelled
- route distances if a vehicle operates on fixed routes
- kilowatt hours of electricity generated
- hours of operation of vehicle or equipment, or
- average hourly fuel consumption of vehicle or equipment.

16. The period adopted for the calculation of aggregated clearances is the accounting period adopted for income tax purposes as provided in section 18 of the *Income Tax Assessment Act 1936*.

Consultation

17. Section 18 of the *Legislative Instruments Act 2003* specifically provides for circumstances where consultation may not be necessary or appropriate. One of

those circumstances is where the instrument is considered minor or machinery in nature, and does not substantially change the law.

18. Because there is no substantive change to the scope of the previous instrument, this instrument is considered to be minor or machinery in nature.

19. As such, no further consultation has been undertaken in the development of this instrument.

James O'Halloran
Deputy Commissioner of Taxation
19/10/2015

Related Rulings/Determinations:
PS LA 2010/03
FTD 2010/1
Previous Rulings/Determinations:
Excise (Mass of CNG) Determination 2012 (No. 1) – F2012L01048

Subject references:
Excise
Excisable goods
Excise Duty

Legislative references:
Excise Act 1901 section 65
Excise Tariff Act 1921 The Schedule
Legislative Instruments Act 2003 section 26
Income Tax Assessment Act 1936 section 18

Case references:

Other references:

Australian Standard / International Organization for Standardization AS ISO 13443-2007, *Natural gas – Standard reference conditions*; (at the time of publication this reference is available from http://infostore.saiglobal.com).

International Organization for Standardization ISO 6976-1995, *Natural gas – Calculation of calorific values, density and Wobbe index from composition*; (at the time of publication this reference is available from http://www.iso.org)

Statement of Compatibility with Human Rights

This Statement is prepared in accordance with Part 3 of the *Human Rights (Parliamentary Scrutiny) Act 2011.*

Excise (Mass of CNG) Determination 2015 (No. 1)

This Legislative Instrument is compatible with the human rights and freedoms recognised or declared in the international instruments listed in section 3 of the *Human Rights (Parliamentary Scrutiny) Act 2011*.

Overview of the Legislative Instrument

Excise (Mass of CNG) Determination 2015 (No. 1) amends and replaces *Excise (Mass of CNG) Determination 2012 (No. 1).* The determination provides rules for working out the mass of Compressed Natural Gas (CNG) that is being delivered for home consumption which is then used for the purposes of working out the amount of excise duty payable on such fuel.

Human rights implications

This legislative instrument does not engage any of the applicable rights or freedoms as it is considered to be minor or machinery in nature. It provides greater certainty in relation to excise obligations around the measurement of fuels.

Conclusion

This legislative instrument is compatible with human rights as it does not raise any human rights issues.